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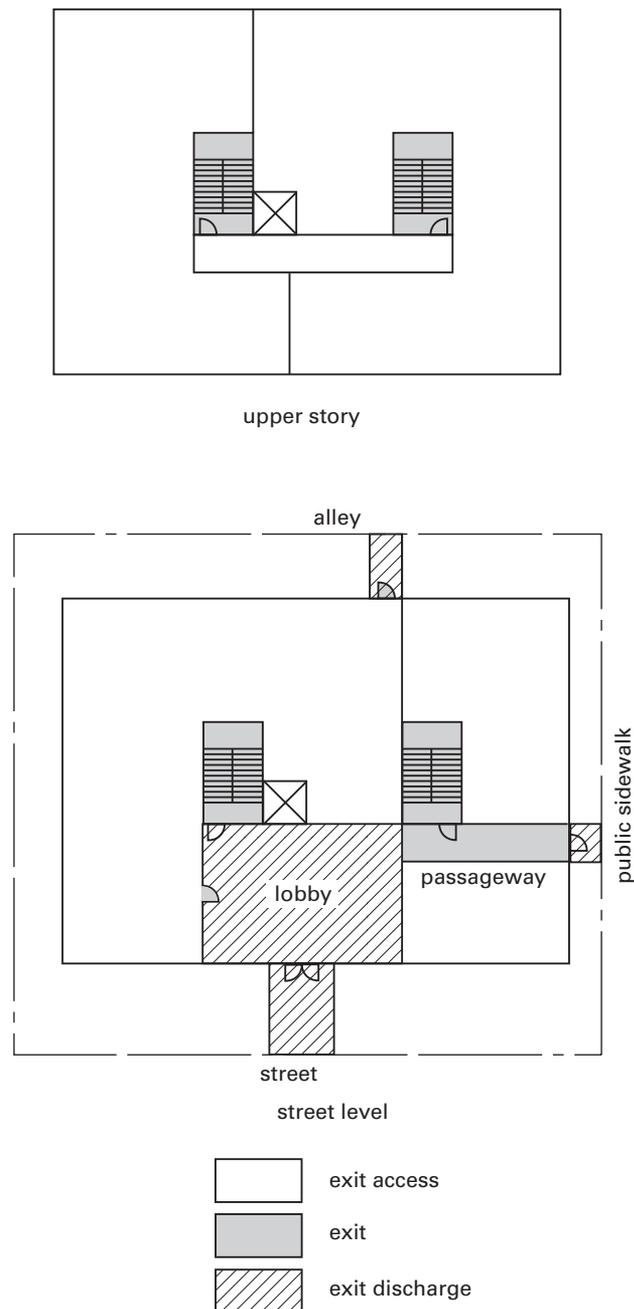
MEANS OF EGRESS

Exiting, or “means of egress” as it is called in the codes, is one of the most important requirements of any building code. Candidates must be familiar with the basic concepts and requirements of exiting and should know many of the commonly used dimensions for corridors, doors, and stairs. Because there are several model codes used throughout the United States and Canada, and many jurisdictions have adopted various editions of the *International Building Code (IBC)*, the NCIDQ exam tests knowledge of exiting concepts that are common to all codes. The exam format puts less emphasis on detailed facts that can be easily looked up and more emphasis on providing a safe means of egress regardless of specific dimensions.

The NCIDQ exam includes code questions in IDFX, IDPX, and the Practicum (PRAC). The exam no longer provides its own Exam Building Code, or “Q-Codes,” used prior to 2021. All the code information required will now be available via drop-down tabs as part of the Case Study Resources or as an exhibit. On the actual exam, the candidate will have access

to various portions of chapters of the *International Building Code (IBC)*, *International Plumbing Code (IPC)*, and *ICC A117.1 Accessible and Usable Buildings and Facilities*.

Figure 8.1
Egress System



THE EGRESS SYSTEM

The IBC and other codes define *means of egress* as a continuous and unobstructed path of vertical and horizontal egress travel from any point in a building or structure to a public way. The means of egress consists of three parts: the exit access, the exit, and the exit discharge. These must lead to a public way. A *public way* is any street, alley, or similar parcel of land essentially unobstructed from the ground to the sky that is permanently appropriated to the public for public use and has a clear width of not less than 10 ft (3048 mm). See Fig. 8.1.

The *exit access* is that portion of the means of egress that leads to the entrance of an exit. Exit access areas may or may not be protected, depending on the specific requirements of the code based on occupancy and construction type. They may include components such as rooms, spaces, aisles, intervening

rooms, hallways, corridors, ramps, and doorways. In concept, exit access does not provide a protected path of travel. In the IBC, even fire-rated corridors are considered exit access. The exit access is the portion of the building where travel distance is measured and regulated (see the section on arrangement and width of exits).

The *exit* is the portion of the egress system that provides a protected path of egress between the exit access and the exit discharge. Exits are fully enclosed and protected from all other interior spaces by fire-resistance-rated construction with protected openings (doors, glass, etc.). Exits may be as simple as an exterior exit door at ground level or may include exit enclosures for stairs, exit passageways, and horizontal exits. In the IBC, exits may also include exterior exit stairways and ramps. Depending on building height, construction type, and passageway length, exits must have either a 1- or 2-hour rating. Travel distance is not an issue once the exit has been reached.

The *exit discharge* is the portion of the egress system between the termination of an exit and a public way. Exit discharge areas typically include portions outside the exterior walls, such as exterior exit balconies, exterior exit stairways, and exit courts. Exit discharge may also include building lobbies of multistory buildings if one of the exit stairways opens onto the lobby and certain conditions are met. These conditions require that the exit door in the lobby is clearly visible, that the level of discharge is sprinklered, and that the entire area of discharge is separated from areas below by the same fire-resistance rating as for the exit enclosure that opens onto it. Note that in the IBC, exterior exit stairways and ramps are considered exits, not exit discharge areas.

OCCUPANT LOAD

The *occupant load* is the number of people that a building code assumes will occupy a given building or portion of a building. It is based on the occupancy classification as discussed in Ch. 7, including assembly, business, educational, and other categories. Occupant load assumes that certain types of use will be more densely packed with people than others and that exiting provisions should respond accordingly. For example, an auditorium needs more exits to allow safe evacuation than does an office space of the same area.

The IBC requires that the occupant loads of areas without fixed seating be determined by taking the area assigned to a particular use and dividing by an occupant load factor as given in the code. In the IBC, the occupant load factor (or floor area in ft²/occupant) is given in Table 1004.5. The IBC table is reproduced in this book as Table 8.1.

For areas with fixed seating, the occupant load is determined by taking the actual number of fixed seats installed and adding the occupant load of areas in which fixed seating is not installed, such as waiting spaces and wheelchair spaces. The occupant load of the open areas is calculated using the same occupant load factors as described previously. For fixed seating without dividing arms, the occupant load is based on one person for each 18 in (457 mm) of seating length. For seating booths, the assumed unit is one person for each 24 in (610 mm) of booth seat length.

The *occupant load factor* is the amount of floor area presumed to be occupied by one person. It is based on the generic function of building spaces and is not the same as the occupancy groups discussed in Ch. 7. The occupant load factors, over time, have been found to consistently represent the densities found in various uses. IBC Table 1004.5 also shows whether the occupant load must be calculated based on net or gross area. The gross floor area includes

Exits are fully enclosed and protected from all other interior spaces by fire-resistance-rated construction with protected openings. They must have either a 1- or 2-hour fire rating.

Table 8.1

Maximum Floor Area Allowances per Occupant (IBC Table 1004.5)

function of space	occupant load factor (floor area in ft ² /occupant)
accessory storage areas, mechanical equipment room	300 gross
agricultural building	300 gross
aircraft hangars	500 gross
airport terminal	
baggage claim	20 gross
baggage handling	300 gross
concourse	100 gross
waiting area	15 gross
assembly	
gaming floors (keno, slots, etc.)	11 gross
exhibit galley and museum	30 net
assembly with fixed seats	see IBC Sec. 1004.6
assembly without fixed seats	
concentrated (chairs only—not fixed)	7 net
standing space	5 net
unconcentrated (tables and chairs)	15 net
bowling centers (allow 5 persons for each lane including 15 ft of runway, and for additional areas)	7 net
business areas	150 gross
concentrated business use areas	see IBC Sec. 1004.8
courtrooms—other than fixed seating areas	40 net
day care	35 net
dormitories	50 gross
educational	
classroom area	20 net
shops and other vocational room areas	50 net
exercise rooms	50 gross
Group H-5 fabrication and manufacturing areas	200 gross
industrial areas	100 gross
institutional areas	
inpatient treatment areas	240 gross
outpatient areas	100 gross
sleeping areas	120 gross
kitchens, commercial	200 gross
library	
reading rooms	50 net
stack area	100 gross
locker rooms	50 gross
mall buildings—covered and open	see IBC Sec. 402.8.2
mercantile	60 gross
storage, stock, shipping areas	300 gross
parking garages	200 gross
residential	200 gross
skating rinks, swimming pools	
rink and pool	50 gross
decks	15 gross
stages and platforms	15 net
warehouses	500 gross

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